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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,758	03/15/2002	Vega Murden	GB 010046	4086

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER
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CHUNG, DAVID Y

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/099,758

Applicant(s)

MURDEN ET AL.

Examiner

David Y. Chung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 15-29 and 32-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,10,14,30 and 31 is/are rejected.
- 7) ☒ Claim(s) 3,4,9 and 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of the restriction requirement in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the claims do not present an undue burden. This is not found persuasive because the separate classification of the two groups requires a separate search for each.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 2, 5-8, 30 and 31 rejected under 35 U.S.C. 102(b) as being anticipated by Bernstein (U.S. 5,956,292).**

As to claim 1, Bernstein discloses a piezoelectric acoustic transducer. Figure 12 shows a wafer 156, acoustic transducer 184 formed over cavity 196, and CMOS

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electronics 168. Because the CMOS electronics control display 24 as shown in figure 1, it can be considered a display component.

As to claims 2, 5, 30 and 31, Bernstein discloses a flexible acoustic diaphragm 158 formed from depositing boron on the wafer. See column 3, lines 14-25. Moveable electrode 186 is formed from a first metal layer deposited on wafer 156. Figure 12 also shows an insulator formed from depositing oxide layer 169. The moveable member comprises diaphragm 158, moveable electrode 186, and oxide layer 169. Note fixed electrode 188. Fixed electrode 188 is formed from a second metal layer deposited on wafer 156.

As to claim 6, oxide layer 169 is also part of the CMOS electrics.

As to claims 7 and 8, the cavity 196 is between the acoustic transducer 184 and the surface of wafer 158 as shown in figure 12 and is formed in the wafer.

**Claims 1 and 7 rejected under 35 U.S.C. 102(e) as being anticipated by Toki (U.S. 6,427,017).**

As to claim 1, Toki discloses the structure of a piezoelectric transparent speaker unit in figure 2. Note in figure 2, the liquid crystal display body 10. The liquid crystal display body 10 comprises a plate with display components formed thereon. The back

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airspace 11 can be considered a cavity. The acoustic transducer is formed on the LCD plate over the cavity.

As to claim 7, the cavity represented by back airspace 11 is between the acoustic transducer and a surface of the LCD plate.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Toki (U.S. 6,427,017).**

Toki does not disclose that the display component is a common electrode or that the display is passive matrix. However, it was necessary to have a common electrode in order to transmit a display signal across the liquid crystal. Passive matrix displays were well known for being cost effective. They were well suited for use in products such as wristwatches because they did not require a high quality display. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to form a

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passive matrix display because they were cheaper and more cost-effective for certain products.

**Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Bernstein (U.S. 5,956,292).**

Bernstein does not disclose a powderblasted cavity. However, this claim is not patentably distinguished over Bernstein because the product-by-process limitation does not produce a materially different cavity. See MPEP § 2113.

***Allowable Subject Matter***

Claims 3, 4, 9, 11-13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Bernstein and Toki do not teach forming the transducer electrodes and display components simultaneously.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (571) 272-2288. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

  
**KENNETH PARKER**  
**PRIMARY EXAMINER**

David Chung  
GAU 2871  
03/07/04